IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

SVV TECHNOLOGY INNOVATIONS INC. *Plaintiff,* v. ACER INC., *Defendant.*	)	Case Nos. 6:24-cv-00536, 538, 539-ADA

DEFENDANT ACER INC.'S OPENING CLAIM CONSTRUCTION BRIEF

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Plaintiff SVV asserts approximately 360 claims from 24 patents in these three consolidated actions. This Court already presided over claim construction between the parties involving 13 of these patents in April 2023 in *SVV Technology Innovations v. Acer Inc.*, No. 6:22-cv-00640-ADA (W.D. Tex. Apr. 6, 2023), ECF No. 49.[1] Among the 11 newly Asserted Patents, the asserted claims contain thousands of claim terms. And while Acer agrees that the vast majority of those terms are entitled to a "plain and ordinary meaning" construction, Acer respectfully seeks the Court's construction of only four terms appearing in six of these newly Asserted Patents. Acer's proposed constructions of these four terms stay true to the claim language's plain meaning as informed by the intrinsic evidence and controlling Federal Circuit authority. Acer hereby submits its opening claim construction brief for the Asserted Patents.

I. BACKGROUND

The Asserted Patents generally relate to specific purported advances in systems and methods for handling light. The subset of the Asserted Patents implicated for claim construction can be grouped into three buckets based on their patent family: (1) U.S. Patent No. RE49,630 (Ex. A); (2) U.S. Patent Nos. 10,962,197 (Ex. B), 11,156,340 (Ex. C), 11,821,621 (Ex. D) (i.e., the '197 patent family); and (3) U.S. Patent Nos. 11,616,157 (Ex. E) and 11,923,475 (Ex. F).

The first two buckets relate to purported improvements either to getting light output from a waveguide (e.g., RE630 patent) or to getting light input into a waveguide (e.g., the '197 patent

[1] For those terms where the Court did not adopt Acer's proposed construction identified in the parties' Joint Claim Construction Chart, No. 6:22-cv-00640-ADA (W.D. Tex. Mar. 16, 2023), ECF No. 44-1, Acer maintains that its prior proposed construction is correct. But, given that Acer is precluded from relitigating those issues here, Acer views the continued pursuit of those proposed constructions (with the exception of "light converting semiconductor material" as noted below) here to be futile and thus a waste of this Court's resources. Thus, Acer stands on its prior proposed constructions as briefed and previously decided against Acer in that case, but it will not further re-brief those constructions here. To the extent those constructions are modified by the Court in that case or overturned on appeal, Acer reserves all rights to present its proposed constructions (or any necessary modifications) in this case.

family). A "waveguide" is a light guide used for guiding the light that is injected, or shined, into it. Examples of commonly known waveguides include a fiber optic cable and, as relevant to this case, a light guide plate of a liquid crystal display (LCD) in a computer monitor. RE630 patent, 1:57-67.

The final bucket (i.e., the '157 and '475 patents) relates to purported improvements in trapping and absorbing light or, in the words of the '157 patent, "harvesting radiant energy emanated by a distant radiant energy source, particularly, to collecting the sunlight and absorbing it by a light sensitive material, medium[,] or device." '157 patent, 1:53-56.

Each is addressed in more detail in the following sections.

A. The Reissue Patent (RE630 Patent)

The reissue patent relates to purported improvements in outputting light from a waveguide, such as a light guide plate of an LCD in a computer screen. RE630 patent, 1:57-67. By way of background, the light emitted from a typical LCD monitor comes from the "edges" of a backlight panel in a monitor using LEDs (light emitting diodes). *Id.*, 2:23-26. In the context of the RE630 patent, these LEDs shine light into an edge of a light guide plate. *Id.* (As discussed below, other patents focus on shining light into other surfaces of the light guide plate.) The waveguide may be a glass sheet or a polymeric plastic material. *Id.*, 2:5-10. The light then travels within the light guide plate until it strikes a reflector, which redirects the light to exit the waveguide through the broad face of the light guide plate (i.e., the surface perpendicular to the edge) and towards the viewer's eyes. *Id.*, 21:33-37. In an ideal LCD monitor, the display surface brightness should be uniform across the entire surface even though (unbeknownst to the viewer) the monitor's edge-lit backlighting panel is illuminated only from its edges. *Id.*, 2:23-29.

According to the reissue patent, "prior art devices usually lack the collimating ability [i.e., the ability to make light parallel] as the light outcoupled from the waveguide by the

reflectors or scattering elements emerges from the waveguide highly divergent." *Id.*, 2:30-33. Improved collimation (or decreasing divergence) may be required for "increas[ing] the lighting panel luminosity toward a given direction or improv[ing] the irradiance intensity on an object that the waveguide-based backlight is illuminating." *Id.*, 2:30-40. The reissue patent purports to address these problems by describing an "illumination system employing a waveguide structure with efficient light outcoupling and collimation that would enhance the energy efficiency and the utility of the device." *Id.*, 2:41-45. According to the reissue patent, the "present invention solves the above problems by [1] providing a portion of the waveguide that is shaped in the form of a linear collimating lens . . . and [2] by further providing a string of light-outcoupling optical reflectors disposed in proximity of the focal line of the collimating lens." *Id.*, 2:45-50.

Consistent with the above description, Figure 7 depicts light input into the edge of a planar waveguide 4 by light source 30. *Id.*, 13:1-3, Fig. 7. Light ray 222 (from light source 30) enters and travels through waveguide 4 until it strikes reflector 8, which causes the light to be output from the waveguide by changing "the propagation angle of the ray and direct[ing] it toward the opposing wall 14 of waveguide 4 where collimating lens 6 is located." *Id.*, 13:1-7, Fig. 7.

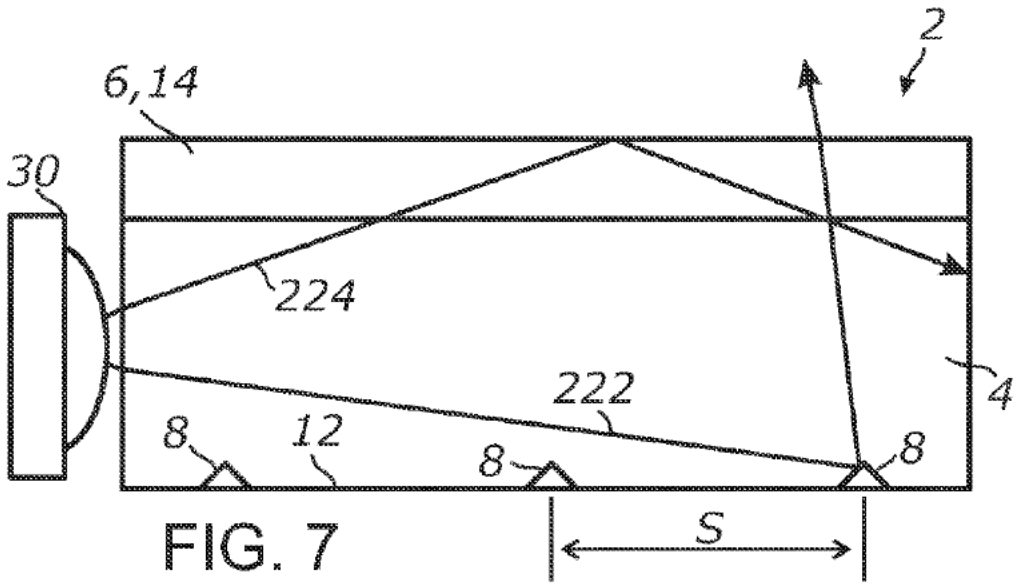

FIG. 7

Id., Fig. 7.

Claim 17 of the reissue patent recites these same concepts and is recited below with the disputed claim term emphasized:

> 17. An illumination system, comprising:
>
> a planar optical waveguide formed from an optically transmissive dielectric material and having a first major surface, an opposing second major surface extending parallel to said first major surface, a first edge configured for light input, and an opposing second edge extending parallel to the first edge;
>
> a plurality of linear cylindrical lenses formed in said first major surface and oriented perpendicular to said first and second edges;
>
> a light source comprising a plurality of light emitting diodes (LEDs) which are positioned proximate to said first edge and optically coupled to said planar optical waveguide;
>
> a reflective surface approximately coextensive with the planar optical waveguide and facing said second major surface; and
>
> a two-dimensional pattern of ***light extraction elements*** formed in or on said second major surface,
>
> wherein each of said plurality of linear cylindrical lenses is configured to reflect light using a total internal reflection, wherein an area of each of said ***light extraction elements*** is less than an area of each of said plurality of linear

> cylindrical lenses, wherein a spacing distance between individual ones of said ***light extraction elements*** within said two-dimensional pattern generally decreases with a distance from the first edge, wherein each of said plurality of linear cylindrical lenses has a curved surface portion with an arcuate cross-sectional profile, and wherein a thickness of said planar optical waveguide is greater than EFL+R, where EFL is an effective focal length of the respective linear cylindrical lens and R is a radius of curvature of the arcuate cross-sectional profile.

RE630 patent, claim 17 (emphases added).

B. ’197 Patent Family (’197, ’340, and ’621 Patents)

Unlike the reissue patent described above, which relates to extracting light ***out*** of a waveguide, the ’197 patent family relates to inputting light ***into*** a waveguide. The ’197 patent is representative of this patent family. Specifically, the ’197 patent is directed to inputting light into the face (i.e., broad-area surface), as opposed to the edge, of a waveguide such as a light guide plate of an LCD in a computer monitor. ’197 patent, 1:46-59 (“[t]his invention also relates to . . . inputting light into a planar waveguide through its face as opposed to edge-lit light guide panels where light is input through one of the waveguide edges,” including with regard to “LCD display backlights” and “computer screens”).

According to the ’197 patent, conventional prior art light emitting devices employing a planar waveguide included an optically transmissive plate and a light source coupled to the plate’s edge—a structure similar to that in the accused tablet products. *Id.*, 1:63-67. But, according to the ’197 patent, “a number of applications exist where edges of the waveguide are not accessible or it is otherwise impractical to input light through an edge.” *Id.*, 2:1-3. Thus, the ’197 patent describes “this invention” as directed to “an improved illumination system providing an efficient light input through a face of a planar waveguide as opposed to light input through an edge.” *Id.*, 2:21-24. It repeats this multiple times, disclosing that “the present invention is directed to face-lit planar waveguide illumination systems” (*id.*, 2:42-47), and “this invention is directed to a system for injecting light into the face of a planar plate” (*id.*, 2:47-51).

The ’197 patent explains that light is injected into the waveguide through an “optical element [i.e., light coupling element] attached to a face of the waveguide and optically coupled to said face.” *Id.*, 2:65-67. The ’197 patent consistently and repeatedly describes the light coupling elements as attached to the broad face of the waveguide (alternatively, “broad-area surface”) and as components that are separate and distinct from the waveguide itself. *See, e.g.*, *id.*, 3:13-17, 4:53-56 (“the light coupling optical element is attached to the face of the waveguide”). The ’197 patent otherwise describes that these light coupling (optical) elements can be implemented in various shapes, sizes, and materials. *See, e.g.*, *id.*, 28:27-57, Figs. 15A-15F.

The ’197 patent’s figures likewise depict face-lit waveguides where the “light coupling optical element” is coupled to the “face” of the waveguide, such as in Figure 1 (below). *Id.*, 8:19-29, Fig. 1. Figure 1 shows “a face-lit waveguide illumination system 2.” *Id.*, 7:44-45.

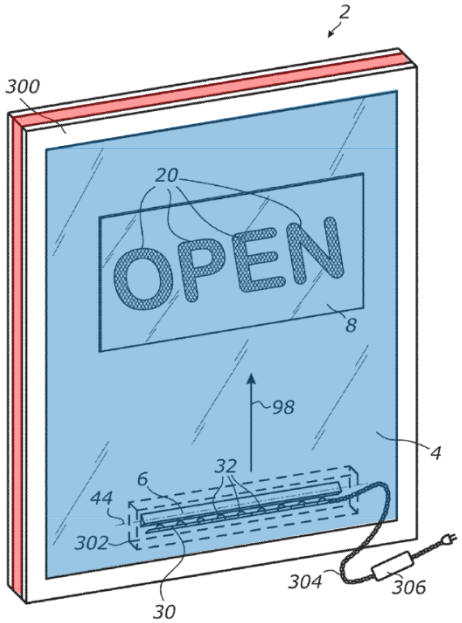

FIG. 1

Id., Fig. 1 (annotated, blue highlighting the broad-area surface and red highlighting the edges). This system “includes a planar light guide exemplified by a rectangular glass window pane 4.”

Id., 7:46-48. "[L]ight source 30 [is] optically coupled to pane 4 by means of element 6." *Id.*, 9:39-42. "Optical element 6 is designed to intercept . . . light emitted by source 30 and communicate such light into pane 4." *Id.*

Claim 1 of the '197 patent is representative of the claim construction issues and is recited below with the disputed elements emphasized:

> 1. A light guide illumination system, comprising:
>
> a planar sheet of an optically transmissive material having a first broad-area surface, a second broad-area surface extending parallel to the first broad-area surface, a first edge, and an opposing second edge;
>
> a generally planar strip of heat-conducting printed circuit having a major surface extending parallel to the first broad-area surface, wherein at least a substantial portion of the major surface is located in a space between the first and second edges;
>
> a plurality of electrically interconnected side-emitting LED packages mounted to the major surface of the generally planar strip of heat-conducting printed circuit and optically coupled to the planar sheet of the optically transmissive material;
>
> a plurality of ***light coupling elements*** formed from an optically transmissive dielectric material and configured for coupling light from the side-emitting LED packages to the planar sheet of the optically transmissive material; and
>
> a plurality of light extraction features formed in at least one of the first and second broad-area surfaces at a distance from the side-emitting LED packages and configured for extracting light from the planar sheet of the optically transmissive material;
>
> wherein a plane of a light emitting aperture of each of the side-emitting LED packages is oriented perpendicular to the major surface and the first broad-area surface, wherein the planar sheet of the optically transmissive material is configured to receive light from the side-emitting LED packages and propagate the received light towards the plurality of light extraction features using optical transmission and total internal reflection, and wherein a density of the light extraction features increases with a distance from the side-emitting LED packages.

Id., claim 1 (emphasis added). Claim 1 of the '340 patent is similar, but instead of using the term "light coupling elements," it refers to a "light coupling area" where light is input into the optically transmissive sheet.

> 1. A light guide illumination system, comprising:
>
> an optically transmissive sheet having a first broad-area surface substantially coextensive with a first side of the optically transmissive sheet, a second broad-area surface substantially coextensive with a second side of the optically transmissive sheet and extending parallel to the first broad-area surface, a first edge, an opposing second edge, ***a light coupling area*** located near the first edge, and a two-dimensional light extraction area located on at least one of the first and second broad-area surfaces and at a distance from the first edge;
>
> a strip of heat-conducting printed circuit located near the first edge and having a major surface extending generally parallel to the first and second broad-area surfaces, wherein at least a substantial portion of the major surface is located in a space between the first and second edges;
>
> a linear array of electrically interconnected side-emitting LED packages mounted to the major surface of the strip of heat-conducting printed circuit and optically coupled to the optically transmissive sheet; and
>
> a plurality of light extraction features formed in or on one of the first and second broad-area surfaces within the two-dimensional light extraction area and configured for extracting light from the optically transmissive sheet,
>
> wherein a plane of a light emitting aperture of each of the electrically interconnected side-emitting LED packages is oriented perpendicular to the major surface and the first broad-area surface, wherein the optically transmissive sheet is configured to propagate light from ***the light coupling area*** towards the two-dimensional light extraction area using optical transmission and total internal reflection, and wherein a density of the light extraction features within the two-dimensional light extraction area increases with a distance from ***the light coupling area***.

'340 patent, claim 1 (emphases added). Claim 1 of the '621 patent includes the same emphasized terms as the '340 patent and surrounding claim language. '621 patent, claim 1.

C. The '157 and '475 Patents

Unlike the other patents discussed above, the '157 patent (and related '475 patent) does not refer to waveguides or displays. Instead, the "present invention" of the '157 patent is

directed to "a method for generating electricity from sunlight," including "photovoltaic devices, solar cells[,] and light detectors having light trapping microstructures or layers to improve absorption of light within the light sensitive layer." '157 patent, 1:57-61; *see also id.*, 1:53-56.

The '157 patent describes problems with "coupling and trapping" light. *Id.*, 3:4-11. According to the '157 patent, prior art "photovoltaic solar cells or light detectors employ an active photoresponsive layer that absorbs at least a portion of the electromagnetic spectrum of the light and generates charge carriers due to the photovoltaic effect." *Id.*, 1:65-2:1. However, "most photovoltaic materials absorb much more weakly in certain wavelengths," which must be solved by using a "minimum thickness" that results in "the high cost of devices." *Id.*, 2:2-16. Although some other "types of photovoltaic devices . . . allow for a much smaller thickness of the active layer," they allow too much light to "escape from the device without being absorbed." *Id.*, 2:17-24, 2:41-44.

As such, "an object of [the] invention" is to provide "efficient light coupling and trapping" to "minimiz[e] energy loss." *Id.*, 3:12-15. The '157 patent describes that "[t]he present invention solves a number of light harvesting problems within a compact system utilizing efficient light coupling and trapping mechanisms." *Id.*, 3:30-32. The '157 patent continues, explaining that "[t]he present invention solves the above problems by" "trapping the incident light within the device," which "causes multiple passage[s] of the trapped light through the photoresponsive (active) layer[,] thus improving the light absorption and energy conversion efficiency." *Id.*, 3:16-24.

The '157 patent's figures likewise show a "light harvesting system" comprising "a photoresponsive layer exemplified by photovoltaic layer 4," such as in Figure 3 (below). *Id.*, 9:3-10, Fig. 3. Figure 3 depicts "[p]hotovoltaic layer 4," which "may include any suitable

photovoltaic element or structure that absorbs light and converts it into charge carriers and/or electric current." *Id.*, 10:56-60.

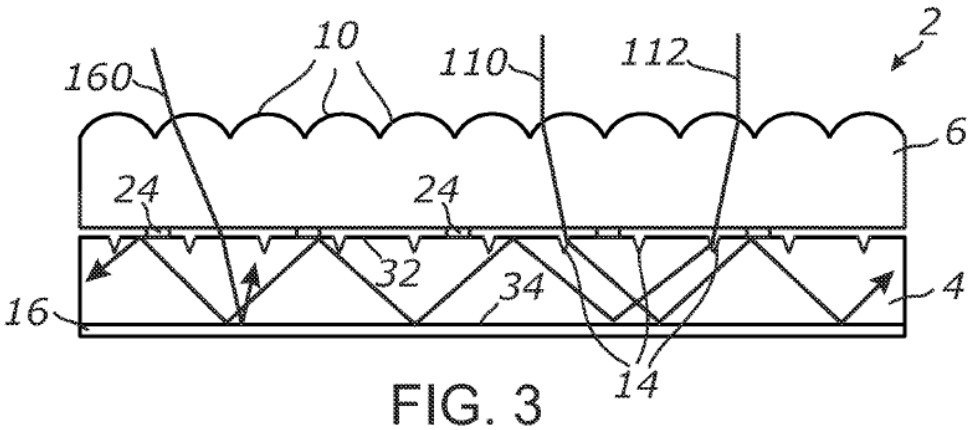

FIG. 3

Id., Fig. 3.

Claim 1 of the '157 patent is representative of the claim construction issues and is recited below with the disputed elements emphasized:

> 1. A method of making a light converting optical system, comprising:
>
> providing a first optical layer having a first microstructured broad-area front surface and at least two edges, the first microstructured broad-area front surface comprising an array of linear grooves disposed side by side and extending along a straight line between the two edges, each of the linear grooves having a triangular cross section and being configured to reflect first light rays having first incidence angles with respect to a surface normal using a total internal reflection and deflect second light rays having second incidence angles with respect to the surface normal using refraction;
>
> providing a thin sheet of reflective light scattering material approximately coextensive with the first optical layer;
>
> positioning the thin sheet of reflective light scattering material parallel to the first optical layer;
>
> providing a light source configured to emit light in a visible spectrum;
>
> providing a second optical layer approximately coextensive with the first optical layer and having a second microstructured broad-area front surface;
>
> providing a continuous broad-area photoabsorptive film layer approximately coextensive with the first optical layer and having an active layer comprising ***a***

> ***first light converting semiconductor material*** having a first bandgap and ***a second light converting semiconductor material*** having a second bandgap which is different than the first bandgap, wherein at least one of the first and second light converting semiconductor materials comprises quantum dots distributed within an optically transmissive material, wherein each of the first and second light converting semiconductor materials is configured to absorb light selectively such that photons with a higher energy are at least partially absorbed and photons with a lower energy are transmitted, and wherein a thickness of the active layer is less than a minimum thickness sufficient for absorbing substantially all light in the visible spectrum traversing through the continuous broad-area photoabsorptive film layer;
>
> positioning the continuous broad-area photoabsorptive film layer between and parallel to the first optical layer and the thin sheet of reflective material; and
>
> positioning the second optical layer on a light path between the light source and the continuous broad-area photoabsorptive film layer.

Id., claim 1 (emphases added). Claim 1 of the '475 patent includes the same emphasized terms and surrounding language. '475 patent, claim 1.

II. DISPUTED CLAIM TERMS

A. **"light extraction element"** (RE630 patent, claims 17, 25)

Acer's Construction	SVV's Construction
This term should be construed under 35 U.S.C. § 112, ¶ 6. ***Function***: receiving and redirecting light ***Structure***: reflector 8 depicted in the figures and described in the specification	Plain and ordinary meaning. Alternatively, "a characteristic, structure, or material that causes light to be directed out of a layer or waveguide."

"Generic terms such as 'mechanism,' 'element,' 'device,' and other nonce words that reflect nothing more than verbal constructs" may fail to disclose sufficiently definite structure and therefore invoke 35 U.S.C. § 112, ¶ 6. *Williamson v. Citrix Online*, 792 F.3d 1339, 1350 (Fed. Cir. 2015) (en banc) (citations omitted). The term "light extraction ***element***"—recited by claims 17 and 25 of the RE630 patent—is a nonce term that does not recite specific structure and should be subject to 35 U.S.C. § 112, ¶ 6.

During prosecution of the RE630 patent, a "Reexamination Specialist" (i.e., Examiner) found that "light extraction element" invoked § 112(f) (i.e., § 112, ¶ 6). Ex. G, 6-8. According to the Examiner, this claim term uses the word "element," which the Examiner noted "has been recognized as a non-structural nonce term that is merely a substitute for the term [']means.[']" *Id.* at 7 (citing M.P.E.P. § 2181(I.A)). The Examiner found that "the term is modified by function because it is for 'light extracting' and is 'configured to' do the quoted function of receiving and redirecting certain light in a certain way." *Id.* The Examiner further found that "the term is not further modified by any structure" and, "[a]t best[,] the location is given, but this does not tell us their structure." *Id.* The Examiner thus found that "112(f) is invoked," and "[t]he limitation covers the corresponding structure in the specification, plus equivalents." *Id.* According to the Examiner, "[t]his is any of the reflector/scattering elements 8 shown in the various figures." *Id.*

Notably, SVV did not dispute the Examiner's construction. Ex. H, 1-4. "Although silence on a point that arises during patent prosecution may not often be properly given significance," SVV's silence is "telling" because it failed to "hint, let alone declare, that" the Examiner was somehow incorrect. *Qualcomm Inc. v. Intel Corp.*, No. 2023-1710, 2025 WL 289503, at *3 (Fed. Cir. Jan. 24, 2025) (citation omitted).

As the Federal Circuit has explained, "[b]ecause an examiner in reexamination can be considered one of ordinary skill in the art, his construction of the asserted claims carries significant weight." *St. Clair Intell. Prop. Consultants v. Canon Inc.*, 412 F. App'x 270, 276 (Fed. Cir. 2011); *see also Am. Hoist & Derrick Co. v. Sowa & Sons*, 725 F.2d 1350, 1359 (Fed. Cir. 1984) (noting that patent examiners are presumed to "have some expertise in interpreting the [prior art] references and to be familiar from their work with the level of skill in the art"),

abrogated on other grounds by Therasense, Inc. v. Becton, Dickinson & Co., 649 F.3d 1276 (Fed. Cir. 2011) (en banc). Indeed, the RE630 patent prosecution was handled by a "Reexamination Specialist" because the RE630 is a reissue application. Ex. G, 8. This Examiner narrowed the scope of the claim under § 112(f), searched for prior art, compared that prior art to the claims, and ultimately granted the reissue patent based on this narrowed claim scope. The Examiner's construction, although not binding, should carry significant weight. *See Cooper Notification v. Twitter, Inc.*, 867 F. Supp. 2d 485, 492-93 (D. Del. 2012) ("As a person skilled in the art, the Examiner's evaluation of the claims and prior art can provide persuasive intrinsic evidence from the reexamination proceedings that supports the Court's construction." (citing *St. Clair*, 412 F. App'x at 276)), *aff'd*, 545 F. App'x 959 (Fed. Cir. 2013).

A means-plus-function construction of "light extraction element" is consistent with both Federal Circuit precedent and cases from other district courts. For example, the Federal Circuit similarly determined that "lever moving element" should be construed as a means-plus-function term in *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1213-14 (Fed. Cir. 1998). The Federal Circuit found that "the claimed 'lever moving element' is described in terms of its function[,] not its mechanical structure." *Id.* at 1214. And, contrary to the Patent Owner's arguments, the Federal Circuit agreed that the term "had not been shown to have a generally understood structural meaning in the art." *Id.* at 1213-14. The Federal Circuit declined to construe the term "so broadly to cover every conceivable way or means to perform the function of moving a lever," instead limiting the "'lever moving element' to structures disclosed in the specification and equivalents thereof that perform the identical function." *Id.* at 1214. The Court should reach the same conclusion here.

Other district courts have similarly determined that other "element" terms should be construed as means-plus-function terms. *Enplas Display Device Corp. v. Seoul Semiconductor Co.*, No. 13-cv-05038 NC, 2015 WL 1062676, at *12-13 (N.D. Cal. Mar. 11, 2015) (construing term "shielding elements" to be a means-plus-function term); *Uni-Sys., LLC v. U.S. Tennis Ass'n Nat'l Tennis Ctr.*, No. 17-CV-147(KAM)(CLP), 2020 WL 3960841, at *15 (E.D.N.Y. July 13, 2020) (construing term "retention element" to be a means-plus-function term). These cases illustrate that "element" terms are frequently construed as means-plus-function terms where the claims fail to recite sufficient structure.

The dependent claims highlight the lack of structure for "light extraction element" in independent claims 17 and 25. For example, claim 18 of the RE630 patent recites "wherein each of said light extraction elements is formed by a generally round cavity having curved walls." And claim 19 recites "wherein each of said light extraction elements is formed by a generally round textured area of a reflective paint applied to said second major surface." Claim 22 specifies that the claimed "light extraction elements [are] positioned on an optical axis of an individual one of said plurality of linear lenses." Claims 17 and 25, however, recite none of this structure.

Because the term is properly construed as a means-plus-function term, it must therefore be construed to "cover the corresponding structure, material, or acts described in the specification and equivalents thereof." 35 U.S.C. § 112, ¶ 6; *see also Vulcan Eng'g Co. v. Fata Aluminium*, 278 F.3d 1366, 1373 (Fed. Cir. 2002). The Patent Office identified the structure as "any of the reflector/scattering elements 8 shown in the various figures." Ex. G, 7. And it was based on this scope that the claims were examined and allowed. The Examiner was correct, and

"light extraction element" should be limited to the reflector/scattering elements 8 shown in the various figures. *See* RE630 patent, 14:41-15:56, Figs. 10, 11A-11G.

SVV's proposed construction of "light extraction element" is incorrect. Indeed, the lack of structure associated with the term is evident from SVV's construction, which alternatively proposes construing the term to cover "a characteristic, structure, or material." In other words, according to SVV, the claimed "light extraction element" does not even itself connote structure because it may just cover a "characteristic . . . that causes light to be directed out of a layer or waveguide." SVV's construction thus only limits the term by its function: "caus[ing] light to be directed out of a layer or waveguide." But the Federal Circuit has explained that this cannot be correct. The term cannot be "described in terms of its function[,] not its mechanical structure." *Mas-Hamilton*, 156 F.3d at 1214; *see also id.* ("[Patent Owner's] claim, however, cannot be construed so broadly to cover every conceivable way or means to perform the function of moving a lever, and there is no structure recited in the limitation that would save it from application of section 112, ¶ 6."). "What is important is not simply that [the term] is defined in terms of what it does, but that the term, as the name for structure, has a reasonably well understood meaning in the art." *Greenberg v. Ethicon Endo-Surgery*, 91 F.3d 1580, 1583 (Fed. Cir. 1996). Even SVV's own proposed construction shows this is not the case for a "light extraction element."

B. "light coupling area" ('197 patent, claims 3, 4; '340 patent, claim 1; '621 patent, claims 1, 26)

Acer's Construction	SVV's Construction
"the portion of the broad-area surface where light is input into the broad-area surface from the light coupling elements"	"an area of the optically transmissive sheet that receives and conditions external light"

Select claims of the ’197, ’340, and ’621 patents[2] recite a “light coupling area.” Properly construed, the “light coupling area” should be limited to a “portion of the broad-area surface where light is input into the broad-area surface from the light coupling elements.”

Claim 1 of the ’197 patent recites “a planar sheet of an optically transmissive material having a first broad-area surface, a second broad-area surface extending parallel to the first broad-area surface, a first edge, and an opposing second edge.” Dependent claim 3 further recites “a light coupling area of the planar sheet of the optically transmissive material.” The broad-area surfaces of the planar sheet are annotated below in blue and the edges are annotated below in red:

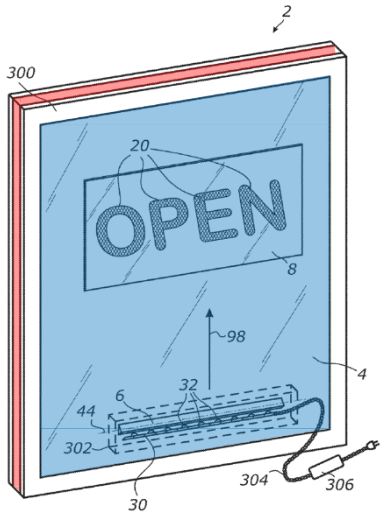

FIG. 1

’197 patent, Fig. 1 (annotated).

According to SVV, the “light coupling area” is an “area of the optically transmissive sheet that receives and conditions external light.” But Acer does not dispute that a “light coupling area” is a part of the optically transmissive sheet that receives external light (i.e., the

[2] For simplicity, Acer only refers to the ’197 patent, but the ’340 and ’621 patents share a common specification with the ’197 patent.

portion where light is input). Instead, the dispute is whether the "light coupling area" can be located on the optically transmissive plate's edge (under SVV's proposed construction) or whether it is limited to the plate's broad-area surface (as proposed by Acer). The '197 patent, however, expressly limits the light coupling area to the broad-area surface of the optically transmissive plate.

The Federal Circuit has been clear that "[w]hen a patent . . . describes the features of the 'present invention' ***as a whole***, this description limits the scope of the invention." *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007) (emphasis added); *see also Honeywell Int'l v. ITT Indus.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006) ("On at least four occasions, the written description refers to the fuel filter as 'this invention' or 'the present invention'. . . . The public is entitled to take the patentee at his word and the word was that the invention is a fuel filter."); *Mosaic Brands v. Ridge Wallet*, 55 F.4th 1354, 1361-62 (Fed. Cir. 2022). Such is the case here where the '197 patent's specification unequivocally limits "[t]he present invention" to "an apparatus and method of inputting light into a planar waveguide through its face [i.e., broad-area surface] as opposed to edge-lit light guide panels where light is input through one of the waveguide edges." '197 patent, 1:46-53. The result is that the claimed "light coupling area" is limited by the specification to a broad-area surface of any optically transmissive plate—not any area of the plate and not the edge.

Indeed, in its "Description of Background Art," the '197 patent expressly disclaims edge-lit applications from the scope of its alleged invention. According to the '197 patent, "a number of applications exist where edges of the waveguide are not accessible or it is otherwise impractical to input light through an edge." *Id.*, 2:1-3. The '197 patent continues, listing examples where edge-lit applications are not practical:

> Furthermore, many existing structural or artistic articles which can provide light guiding and distribution functions are not always readily transformable to edge-lit applications. Typical examples include framed glass windows of building facades and doors, storefront window panes, as well as various interior and exterior architectural features employing transparent glass or plastic panels.
>
> Other examples of common objects which could be used as planar waveguides but may not be suitable for light input from an edge include but are not limited to planar slabs of glass or transparent plastic which edges are roughened or sanded. In a yet further example, the edges of some transparent slabs or panels may be tapered making it difficult to input light from a relatively large source. The light input aperture of edges may also be too small compared to the size of the light source due to the insufficient thickness of the transparent slab or panel.

Id., 2:3-20. From this, the '197 patent concludes that "[i]t is therefore an object of this invention to provide an improved illumination system ***providing an efficient light input through a face of a planar waveguide as opposed to light input through an edge***." *Id.*, 2:21-24 (emphasis added); *see also id.*, 2:31-36.

In the "Brief Summary of the Invention," the '197 patent again disclaims "edge-lit illumination devices," explaining that "[t]he present invention solves a number of problems associated with light distribution and illumination using planar waveguides by providing a face-lit solution which is not hindered by the limitations of conventional edge-lit illumination devices requiring the access to waveguide edges or surface penetration for enabling light input." *Id.*, 2:52-57. The '197 patent instead discloses that, according to the alleged invention, "light is input into a face or broad-are[a] surface [of] the planar waveguide." *Id.*, 3:1-4; *see also id.*, 2:42-47 ("[T]he present invention is directed to face-lit planar waveguide illumination systems which may be employed to redistribute light emitted by a compact light source over a large area of the planar waveguide and re-emit at least a portion of the distributed light from a major surface of the waveguide.").

The ’197 patent repeatedly endorses inputting light into a broad-area surface and disclaims edge-lit applications as a feature of the claimed invention.[3] This “clear, repetitive, and uniform nature of the [’197] patent’s description . . . ‘limit[s] the scope of the invention.’” *Rembrandt Pat. Innovations v. Apple, Inc.*, 716 F. App’x 965, 972 (Fed. Cir. 2017) (quoting *Verizon*, 503 F.3d at 1308); *see also VirnetX, Inc. v. Cisco Sys.*, 767 F.3d 1308, 1318 (Fed. Cir. 2014) (“The fact that [a feature] is ‘repeatedly and consistently’ used to characterize the invention strongly suggests that it should be read as part of the claim.” (citation omitted)). Indeed, ***nowhere*** does the specification disclose (or even hint) that the invention is directed to edge-lit waveguides or disclose, describe, or depict in any figures edge-lit embodiments.

This case is analogous to the Federal Circuit’s construction of patent claims describing techniques for securely initializing or “bootstrapping” a computer system to require automatic recovery, rather than manual recovery, of failed boot components. *Rembrandt*, 716 F. App’x at 966, 970-74. Like the ’197 patent’s repeated disavowal of edge-lit applications, the Federal Circuit determined that “[t]he exclusion of non-automated recovery processes is inextricably interwoven into descriptions of the primary purposes of the invention and how the invention overcomes problems in the prior art.” *Id.* at 974. “Under these circumstances, where the patent clearly distinguishes non-automated processes from the [asserted] patent’s invention and makes clear that non-automated processes do not accomplish the invention’s stated objectives of improved security and lower cost of ownership, the district court correctly construed the claims to require automated recovery.” *Id.* Similarly, here, the ’197 patent distinguishes edge-lit

[3] Claim 1 of the ’340 patent requires that the “light coupling area” is “located near the first edge.” ’340 patent, claim 1. But this is consistent with the disclosure cited above, including Figure 1, which illustrates an LED inputting light at a broad-area surface near an edge. *E.g.*, ’197 patent, Fig. 1.

waveguides from face-lit waveguides and makes clear that edge-lit waveguides have a litany of problems that can otherwise be addressed through face-lit waveguides.

The Court should thus construe "light coupling area" as a "portion of the broad-area surface where light is input into the broad-area surface from the light coupling elements."

C. "light coupling elements" ('197 patent, claim 1; '340 patent, claims 2, 3; '621 patent, claims 3, 4)

Acer's Construction	SVV's Construction
"a light transmitting structure separate from and optically coupled to the broad-area surface"	Plain and ordinary meaning. Alternatively, "an optical structure designed to facilitate transfer of light between distinct optical components (e.g., from a light source such as LED to a waveguide)."

Claim 1 of the '197 patent[4] recites "a plurality of light coupling elements formed from an optically transmissive dielectric material and configured for coupling light from the side-emitting LED packages to the planar sheet of the optically transmissive material." Properly construed, the "light coupling elements" should be limited to a "structure separate from and optically coupled to the broad-area surface."

This dispute is similar to the "light coupling area" dispute. According to SVV, a "light coupling element" is an "an optical structure designed to facilitate transfer of light between distinct optical components (e.g., from a light source such as [an] LED to a waveguide)." But Acer does not dispute that a "light coupling element" is a structure that facilitates transfer of light between distinct optical components. Instead, the dispute is whether "light coupling elements" can be located on the optically transmissive plate's edge (under SVV's proposed construction) or whether "light coupling elements" are limited to the plate's broad-area surface (as proposed by

[4] For simplicity, Acer only refers to the '197 patent, but the '340 and '621 patents share a common specification with the '197 patent.

Acer). The '197 patent makes clear that its invention limits the light coupling elements to the broad-area surface of the optically transmissive plate because edge-lit applications are specifically disclaimed. The analysis above with respect to "light coupling area" applies equally to "light coupling elements" because both terms are central to the claimed structure for inputting light into the optically transmissive plates: the "light coupling elements" introduce light into the "light coupling area."

Indeed, the '197 patent expressly disclaims edge-lit waveguides when using the claimed "light coupling elements." For example, the '197 patent explains that the disclosed system "of FIG. 1 further includes a light coupling optical element 6 made from an optically transmissive material and configured for injecting light into pane 4 ***through its face as opposed to injecting light through an edge in edge-lit illumination systems***." '197 patent, 8:19-23 (emphasis added). Element 6 positioned on broad-area surface 4 (rather than the edge) is shown below:

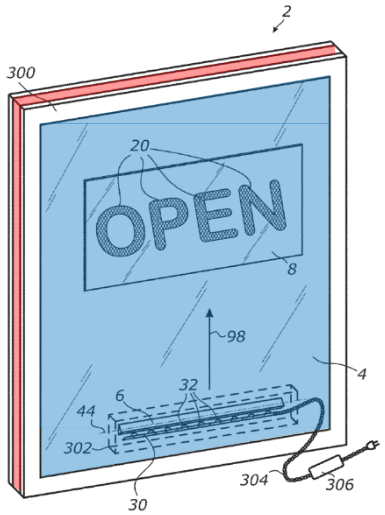

FIG. 1

Id., Fig. 1 (annotated). The '197 patent continues, explaining that "[o]ptical element 6 [i.e., light coupling element] is attached to one of the two opposing broad-area surfaces or faces of window pane 4 . . . ." *Id.*, 8:23-23; *see also id.*, 9:21-42 ("Element 6 may also be positioned at any other

location of the optically transmissive surface of pane 4."), 11:28-35, 11:43-46, 17:27-30, 23:48-53, 24:40-50. Indeed, the '197 patent consistently illustrates the "light coupling elements" (designated "6") as positioned on the broad-area surface of the optically transmissive sheet:

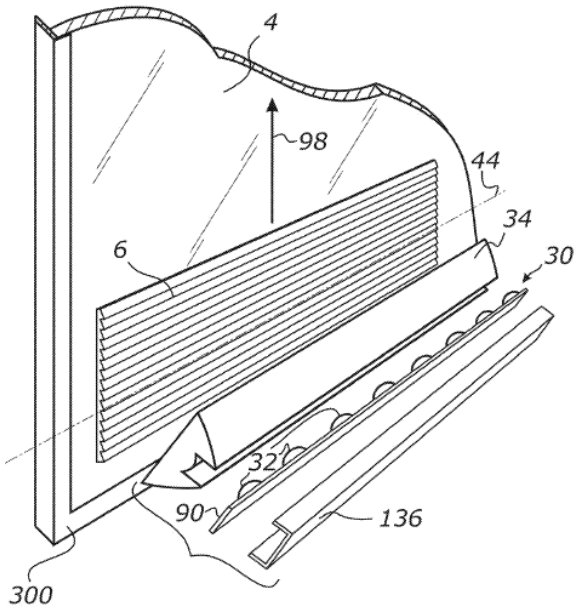

FIG. 6

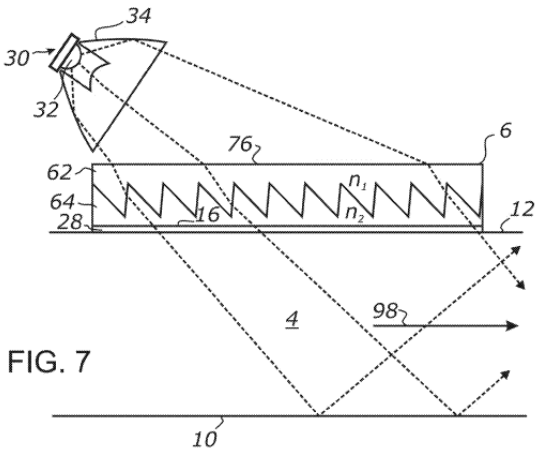

FIG. 7

'197 patent, Figs 6, 7. Nowhere does the specification disclose that the invention is directed to edge-lit waveguides or disclose, describe, or depict edge-lit embodiments.

The '197 patent also repeatedly and consistently emphasizes that the light coupling elements 6 are separate from (and attached to) the broad-area surface (rather than a feature of the broad-area surface). For example, the '197 patent discloses that "optical element 6 may be glued to the surface of pane 4 using an optically clear adhesive." *Id.*, 8:63-66. Or "optical element 6 may be coupled to pane 4 using an intermediate optically clear substrate." *Id.*, 9:2-6. Alternatively, "light coupling optical element 6 may be attached to a face of pane 4 using a low-tack adhesive or pressed against the pane surface to eliminate the air gap." *Id.*, 12:46-48; *see also id.*, 18:65-19:1. Indeed, the '197 patent discloses that "the width of the elongated body of

optical element 6 should normally be less than twice the thickness of pane 4 ***it is attached to***." *Id.*, 14:35-37 (emphasis added). The '197 patent thus makes clear that "light coupling elements" are attached to and separate from the optically transmissive plate and not a feature of the plate itself.

Although Acer contends that RE630's "light extraction element" is a means-plus-function term, Acer does not likewise contend that "light coupling elements" is a means-plus-function term. Unlike the "light extraction element" in RE630, the '197, '340, and '621 patent claims provide structure for "light coupling elements." For example, claim 1 of the '197 patent recites that these elements are "formed from an optically transmissive dielectric material and configured for coupling light from the side-emitting LED packages to the planar sheet of the optically transmissive material." Claim 2 of the '340 patent recites "a linear array of optically transmissive light coupling elements formed in a surface of the optically transmissive sheet and distributed along the first edge according to a regular pattern."[5] Claim 3 of the '621 patent recites similar structure. There is thus no inconsistency between proposed constructions.

D. "light converting semiconductor material" ('157 patent, claims 1, 14; '475 patent, claims 1, 14)

Acer's Construction	SVV's Construction
"photovoltaic semiconductor that absorbs light and converts it into charge carriers and electric current"	Plain and ordinary meaning

[5] Similar to "light coupling area," claim 2 of the '340 patent requires that the "light coupling elements" are "distributed along the first edge." '340 patent, claim 2. But this is likewise consistent with the disclosure cited above, including Figure 1, which illustrates an LED inputting light at a broad-area surface near (or along) an edge. *See, e.g.*, '197 patent, 9:14-18 ("Optical element 6 is positioned near a bottom edge of window pane 4 with its longitudinal axis 44 aligned generally parallel to the bottom edge of the pane and perpendicular to an intended prevailing direction 98 of light propagation.").

Properly construed, a "light converting semiconductor material" is a "[p]hotovoltaic semiconductor that absorbs light and converts it into charge carriers and electric current." While SVV's "[p]lain and ordinary meaning" construction would broadly allow the claim to cover devices that convert light into charge carriers, electricity, ***or other light***, the '475 and '157 patents[6] were narrowly focused on shortcomings in light converting semiconductor materials that converted light into charge carriers or electricity (i.e., non-light form)—not into other light. The Court should reject SVV's attempt to broaden its claims beyond what was reasonably possessed by the inventor and disclosed by the patent.

According to the '475 patent, "[t]he present invention relates to a device and method for . . . collecting the sunlight and absorbing it by a light sensitive material, medium[,] or device." '475 patent, 1:54-57. And "[m]ore particularly, the present invention" is directed to "a method for generating electricity from sunlight." *Id.*, 1:58-62. The '475 patent refers to the device that undertakes this conversion as a "photovoltaic device[]." *Id.* As here, "[w]hen a patent . . . describes the features of the 'present invention' as a whole, this description limits the scope of the invention." *Verizon*, 503 F.3d at 1308. The '475 patent's description of the "present invention" is limiting on the scope of the claimed "light converting semiconductor material."

As the Federal Circuit has explained in numerous cases, "a patent's repeated and consistent description of a claim term may inform its construction." *Groove Digital v. United Bank*, 825 F. App'x 852, 856 (Fed. Cir. 2020); *Profectus Tech. v. Huawei Techs. Co.*, 823 F.3d 1375, 1381 (Fed. Cir. 2016). Such is also the case here. In addition to how it describes the

[6] For simplicity, Acer only refers to citations from the '475 patent, but the '157 patent shares a common specification with the '475 patent.

"present invention," the '475 patent repeatedly and consistently describes the claimed "semiconductor material" (i.e., "[p]hotovoltaic layer 4") as including "any suitable photovoltaic element or structure that absorbs light and ***converts it into charge carriers and/or electric current***." '475 patent, 10:56-60 (emphasis added).

Indeed, describing the prior art, the '475 patent explains that "[o]ne exemplary material suitable for converting light into electricity is silicon (Si)." *Id.*, 2:8-9. But, according to the '475 patent, silicon "is an indirect bandgap semiconductor and is poorly absorbing the long wavelength light." *Id.*, 2:9-11. In addition, "[w]hile Si is very abundant, stable[,] and well-suited for solar cell and light detector manufacturing, the cost of this thick layer of silicon is quite high[,] which results in the high cost of the devices." *Id.*, 2:14-17. The '475 patent thus proposes a solution that purportedly improves on shortcomings of conventional semiconductor materials, disclosing a method of capturing light that "improv[es] the light absorption and energy conversion efficiency." *Id.*, 3:16-24.

According to the '475 patent, the disclosed "photovoltaic features . . . allow for efficient conversion of light into electricity . . . ." *Id.*, 11:45-51. The '475 patent explains that the disclosed system is used "to effectively capture a quasi-parallel beam of monochromatic or broad-spectrum electromagnetic energy, [and] trap and guide it through its photovoltaic element or layer ***so that substantially all of the beam can be absorbed and converted into the electric current*** using a much thinner layer of photoabsorptive material than in conventional devices." *Id.*, 21:33-40 (emphasis added). This repeated and consistent description controls and limits the claimed "light converting semiconductor material."

SVV's proposes a "[p]lain and ordinary meaning" construction to construe the term to cover the conversion of light into other forms of light—something neither envisioned nor

disclosed by the ’475 or ’157 patent. The ’475 and ’157 patents do not use the term “convert” to describe processes where light is absorbed but then re-emitted as light. Because “light converting” (and variations thereof) are used in the patents exclusively to describe changing light to electricity, the Court should adopt Defendant’s proposed construction that is consistent with the plain and ordinary meaning of the claim in view of the specification.

While Acer acknowledges that “light converting” was previously construed by this Court in a dispute between the same parties, the terms at issue at the time were from multiple different, related ***and*** unrelated patent families. *SVV Tech.*, No. 6:22-cv-00640-ADA, ECF No. 49 at 2. The dispute as to the specific limitation “light converting semiconductor material” in the context of the ’157 and ’475 patents (and related family) was not necessary to any prior judgment. Acer previously argued that “light converting” should be construed as “changing light to non-light form.” *Id.*, No. 6:22-cv-00640-ADA, ECF No. 44-1 at 1. The Court disagreed, likely because the specifications in a family different from the ’157 patent disclosed converting light at one wavelength into light of a different wavelength. Unlike the disclosure in that unrelated patent, nothing in the ’157 patent’s specification contains this disclosure. Acer has thus narrowed the scope of the dispute to a single patent family where the intrinsic evidence most directly supports Acer’s proposed construction and narrowed the term proposed for construction from “light converting” to “light converting semiconductor material.”

III. CONCLUSION

For the foregoing reasons, the Court should adopt Acer’s proposed constructions and reject SVV’s attempt to expand the scope of its patent claims beyond what was reasonably in possession of the inventors and disclosed in the Asserted Patents.

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CERTIFICATE OF SERVICE

I certify that on June 23, 2025, the foregoing document was electronically filed with the Clerk of the Court using the CM/ECF system pursuant to Local Rule CV-5(c), which will send a notification of such filing (NEF) to all counsel of record.

/s/ Eric H. Findlay
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